



Indiana Crop & Weather Report

United States Dept of Agriculture

Indiana Agricultural
Statistics Service

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CROP REPORT FOR WEEK ENDING JULY 13

AGRICULTURAL SUMMARY

Showers and thunderstorms continued to pop up in many areas of the state during the week, according to the Indiana Agricultural Statistics Service. The severe flooding and ponding have caused serious damage to major crops in many fields around the state. Several inches of rain fell again last week in some areas. The total impact of the water damage to corn, soybeans and wheat is undetermined at this point in time. Early assessment by reporters indicate the heaviest damage is in the northwest and central regions of the state. Impact of the weather damage will be reflected in the August crop report. Severe damage and total loss of crops is expected in many river bottom fields. By the weekend, water was subsiding in some fields, but major flooding still exists along river bottom fields.

FIELD CROPS REPORT

There were 2.2 **days suitable for fieldwork**. Thirteen percent of the corn acreage has **silked** compared with 8 percent last year and 33 percent for the 5-year average. Growth and development of corn plants have advanced rapidly with many fields recently starting to enter the pollination stage. Corn **condition** is rated 52 percent good to excellent compared with 48 percent last year at this time.

Virtually all of the soybean acreage has emerged except for double crop soybean fields. Twenty-three percent of the soybean acreage is **blooming** compared with 20 percent last year and 42 percent for the average. One percent of the soybean acreage is **setting pods** compared with 3 percent last year and 8 percent for the average. Soybean **condition** is rated 51 percent good to excellent compared with 51 percent last year at this time.

Winter wheat **harvest** is 61 percent complete compared with 87 percent last year and 91 percent for the average. By area, 10 percent of the wheat acreage is harvested in the north, 54 percent in the central region and 97 percent in the south.

Major activities during the week were spraying for weeds and insects, cleaning up from the water damage, repairing equipment, certifying crop acreage, moving grain to market, mowing and baling hay and taking care of livestock.

LIVESTOCK, PASTURE AND RANGE REPORT

Pasture condition is rated 11 percent excellent, 55 percent good, 26 percent fair, 6 percent poor and 2 percent very poor. Second cutting of **alfalfa** hay is 32 percent complete compared with 48 percent last year and 63 percent for average. Livestock continued to be under some stress from the standing water and flooding problems.

CROP PROGRESS TABLE

Crop	This Week	Last Week	Last Year	5-Year Avg
Percent				
Corn Silked	13	4	8	33
Soybeans Blooming	23	7	20	42
Soybeans Setting Pods	1	NA	3	8
Winter Wheat Harvested	61	55	87	91
Alfalfa Second Cutting	32	23	48	63

CROP CONDITION TABLE

Crop	Very Poor	Poor	Fair	Good	Excellent
Percent					
Corn	5	12	31	43	9
Soybean	5	12	32	43	8
Pasture	2	6	26	55	11

SOIL MOISTURE & DAYS SUITABLE FOR FIELDWORK TABLE

	This Week	Last Week	Last Year
Percent			
Topsoil			
Very Short	0	4	18
Short	5	20	41
Adequate	42	47	40
Surplus	53	29	1
Subsoil			
Very Short	2	4	11
Short	6	16	36
Adequate	56	61	51
Surplus	36	19	2
Days Suitable	2.2	5.6	6.1

CONTACT INFORMATION

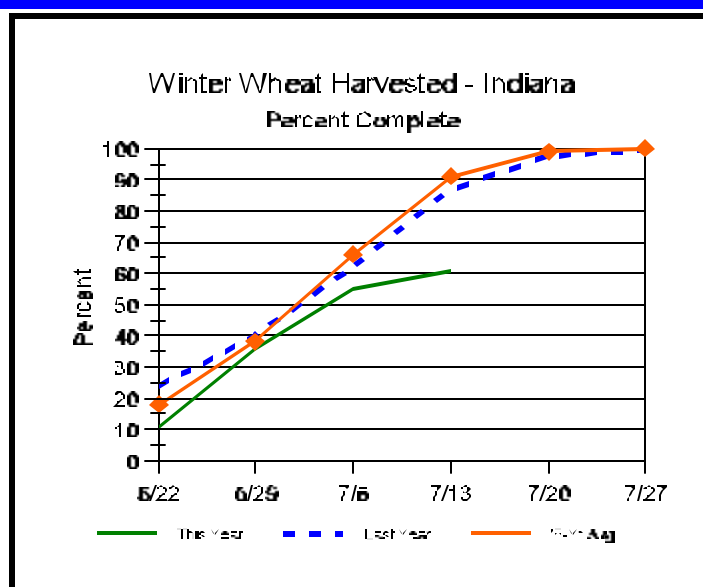
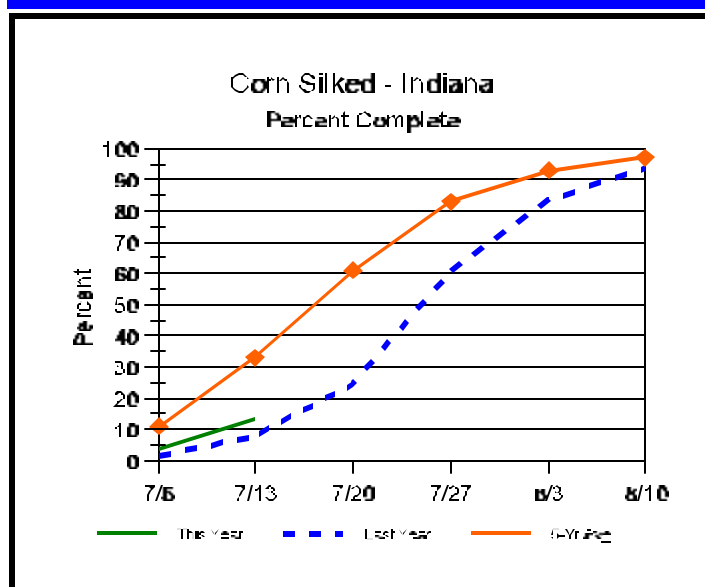
--Greg Preston, State Statistician

--Bud Bever, Agricultural Statistician

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Crop Progress



Other Agricultural Comments And News

Rain, Hail, Wind: What Next?

Frequent and heavy rainfall in recent days has caused record and near-record flooding of rivers, creeks, and streams throughout much of Indiana. Large ponded areas exist in fields distant from floodwaters. The rains have often been accompanied by damaging winds and hail that have caused additional damage to the state's corn, soybean, and wheat crops. The consequences to grain yield and quality from the damage caused by the flooding/ponding and wind are difficult to pinpoint with much accuracy because little research exists that addresses these chance-occurring yield-limiting factors. Risks and expectations, however, can be outlined.

- Rules of thumb suggest that corn and soybean crops inundated by standing water may only survive a few days with the 90-degree temperatures that have been prevalent during this epic rainfall episode. Oxygen deprivation quickly results in significant deterioration and death of above-and below-ground plant tissue.
- Further physical crop damage (soil erosion, washing away of plants, lodging of plants, and plant tissue damage) occurs from the force of the flowing water on land adjacent to flooded creeks and rivers as well as from any debris caught up in the floodwaters.
- Severe lodging of wheat yet unharvested will result in yield loss due to mechanical harvesting difficulties and/or reduction in grain quality due to weathering and sprouting of grain (Lipps et al. 2003). The quality of wheat straw harvested from these ponded areas will also be lower.
- Deposits of sediment and crop residues often remain on crop plants once the water recedes that either outright smother any surviving plants or greatly reduce their ability to capture sunlight and photosynthesize carbohydrates.
- Mud and crud that cakes the leaves and stalks encourage subsequent development of fungal and bacterial diseases in damaged plant tissue. When Deer Creek (Carroll County) flooded severely in August of 1998, adjacent fields of corn that were in the initial stages of pollination subsequently

developed severe bacterial ear rots following inundation by flood waters at or above the ear level of the plants (Nielsen & Ruhl, 1998).

- Crops that survive less severe bouts of ponding and saturated soils will nonetheless suffer significant damage to their root systems. The immediate effects will be stunting of plant development. In the longer term, root systems compromised by ponding and saturated soils now will be less able to sustain the crops IF drought conditions would develop later in the growing season.
- For corn, damage to its root system now will predispose the crop to the development of root and stalk rots later by virtue of the photosynthetic stress imposed by the limited root system during the important grain filling period following pollination. Monitor affected fields later in August for the possible development of stalk rots and modify harvest-timing strategies accordingly.
- Loss of soil nitrate nitrogen in saturated soils due to denitrification or leaching processes is undoubtedly occurring at significant rates. Estimates of nitrate-N loss due to waterlogged soil conditions are at least five percent per day given the current warm soil temperatures (Hoeft, 2002). Many cornfields in the affected area are still in their rapid growth phase prior to pollination when nitrogen uptake rates are at their peak. Consequently, some of these fields currently enduring soggy soil conditions may ultimately develop nitrogen deficiency symptoms without additional fertilizer applications. Where estimated nitrogen loss is significant (60 lbs or greater) in fields not yet tasseling and yield potential is still reasonable, corn may respond to an additional 50 – 80 lbs of applied fertilizer N up to or shortly after tasseling (Hoeft, 2001).

(Continued on Page 4)

Weather Information Table

Week ending Sunday July 13, 2003

	Past Week Weather Summary Data							Accumulation						
Station	Air							Avg	April 1, 2003 thru					
	Temperature				Precip.			4 in	July 13, 2003					
								Soil				GDD Base 50°F		
	Hi	Lo	Avg	DFN	Total	Days	Temp	Total	DFN	Days	Total	DFN		
Northwest (1)														
Chalmers_5W	92	55	73	-1	3.96	5	73	23.50	+10.64	42	1316	-128		
Valparaiso_AP_I	88	55	72	-2	1.71	5		16.13	+2.34	41	1184	-95		
Wanatah	88	51	71	-2	2.11	6	76	16.64	+3.42	43	1108	-108		
Wheatfield	89	52	72	-1	3.58	5		20.46	+7.43	41	1223	-31		
Winamac	88	54	72	-2	4.07	6	74	19.69	+6.60	43	1221	-94		
North Central(2)														
Plymouth	87	52	71	-3	4.22	6		15.92	+2.24	40	1155	-216		
South_Bend	87	53	71	-3	1.91	4		13.91	+1.10	41	1207	-55		
Young_America	89	55	73	-2	4.27	6		18.60	+6.06	43	1325	-12		
Northeast (3)														
Columbia_City	87	51	72	-1	2.67	4	78	16.31	+3.41	49	1179	-19		
Fort_Wayne	88	54	72	-3	4.77	5		20.43	+8.55	41	1208	-119		
West Central (4)														
Greencastle	91	54	74	-2	4.87	4		17.95	+3.61	45	1274	-258		
Perrysville	92	55	75	+0	2.51	4	74	14.57	+0.53	39	1454	+24		
Spencer_Ag	92	57	76	+2	3.97	4		16.80	+1.95	45	1422	-5		
Terre_Haute_AFB	95	57	77	+2	3.35	3		13.10	-0.86	34	1544	+14		
W_Lafayette_6NW	91	54	73	-1	3.72	5	75	18.23	+5.31	48	1371	+30		
Central (5)														
Eagle_Creek_AP	90	60	74	-2	1.53	3		16.21	+3.19	37	1459	-54		
Greenfield	91	59	74	-2	3.86	6		20.52	+6.51	47	1371	-66		
Indianapolis_AP	90	58	74	-2	2.20	4		17.58	+4.56	40	1482	-31		
Indianapolis_SE	90	57	74	-3	1.26	5		15.14	+1.78	40	1382	-108		
Tipton_Ag	89	55	72	-2	3.86	6	79	22.98	+10.06	41	1224	-70		
East Central (6)														
Farmland	90	58	73	+0	5.19	5	74	19.33	+6.23	40	1299	+46		
New_Castle	88	56	71	-3	3.21	5		15.00	+0.75	39	1118	-165		
Southwest (7)														
Evansville	92	62	79	+2	1.48	3		16.31	+2.37	43	1721	-82		
Freelandville	92	61	77	+1	3.02	3		18.83	+4.44	39	1586	-4		
Shoals	93	59	77	+3	3.43	4		19.86	+4.42	42	1546	+24		
Stendal	91	61	77	+1	0.20	1		16.48	+0.91	34	1644	-37		
Vincennes_5NE	95	60	78	+2	2.71	4	81	18.65	+4.26	47	1622	+32		
South Central(8)														
Leavenworth	91	61	78	+3	2.49	5		16.79	+1.18	49	1555	+32		
Oolitic	91	58	76	+2	3.99	5	76	19.04	+4.40	47	1463	+20		
Tell_City	93	64	80	+4	1.01	4		17.09	+1.44	35	1837	+140		
Southeast (9)														
Brookville	91	59	75	+2	4.40	5		18.64	+4.70	45	1467	+118		
Milan_5NE	91	59	75	+2	3.37	6		19.94	+6.00	58	1422	+73		
Scottsburg	92	57	77	+2	1.16	5		17.60	+3.24	46	1490	-88		

DFN = Departure From Normal (Using 1961-90 Normals Period).

GDD = Growing Degree Days.

Precipitation (Rainfall or melted snow/ice) in inches.

Precipitation Days = Days with precip of .01 inch or more.

Air Temperatures in Degrees Fahrenheit.

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Rain, Hail, Wind: What Next? (Continued)

- Assessing the effects of hail damage to corn can be challenging. Important factors include the amount of defoliation and stalk bruising caused by the hail stones relative to the growth stage of the crop. While hail damage can result in severe yield losses in corn, most of the time the human eye perceives greater damage than truly exists. Browse the two references listed below (Nielsen, 2001; Vorst, 1993) on hail damage assessment for more information.
- Wind damage to corn has occurred either as stalk breakage (aka "green snap") or root lodging (plants uprooted and laying nearly flat to the ground). The yield effect of "green snap" damage depends on the percentage of field affected and whether the stalk breakage occurs above or below the ear, but is usually serious regardless. Obviously, stalk breakage below the ear results in zero yield for that plant. Stalk breakage above the ear results in significant yield loss due to the loss of upper canopy photosynthesis capacity for that plant. Root lodged corn will recover or straighten up to varying degrees depending on the growth stage of the crop. Generally, younger corn has a greater ability to straighten up with minimal "goose-necking" than older corn. Yield effects of root lodging depend on whether soil moisture remains adequate for root regeneration, the severity of root damage due to the uprooting nature of root lodging, and the degree of "goose-necking" that develops and its effect on the harvestability of the crop.

Related References

Hoelt, Robert. 2001. **Nitrogen Loss Update.** Univ. of Illinois Pest & Crop Bulletin (6/22/01). Online at <http://www.ag.uiuc.edu/cespubs/pest/articles/200113g.html> [URL verified 7/9/03].

Hoelt, Robert. 2002. **Predicting/Measuring Nitrogen Loss.** Univ. of Illinois Pest & Crop Bulletin (5/17/02). Online at <http://www.ag.uiuc.edu/cespubs/pest/articles/200208n.html> [URL verified 7/9/03].

Lipps, Pat, Jim Beuerlein, and Dennis Mills. 2003. **Potential Wheat Harvest Problems Caused by Persistent Rain.** Ohio State Univ. C.O.R.N. (7/7-13/03). Online at <http://corn.osu.edu/archive/2003/jul/03-21.html> [URL verified 7/9/03].

Nielsen, Bob. 2001. **Hail Damage in Corn: Moving Beyond Grief to Damage Assessment.** Purdue Univ. Online at http://www.kingcorn.org/news/articles.01/Hail_Damage-0606.html [URL verified 7/9/03].

Nielsen, Bob and Gail Ruhl. 1998. **Bacterial Ear Rot in Flooded Corn.** Purdue Univ. Online at <http://www.kingcorn.org/news/articles.98/p&c9828.html> [URL verified 7/9/03].

Thomison, Peter. 2001. **Weather Conditions Favorable for "Green Snap".** Ohio State Univ. C.O.R.N. (6 / 1 8 0 2 4 / 0 1) . Online at <http://corn.osu.edu/archive/2001/jun/01-18.html#linkc> [URL verified 7/9/03].

Vorst, Jim. 1993. **Assessing Hail Damage to Corn.** Purdue Univ. Extension Publication NCH-1. Online at <http://www.agcom.purdue.edu/AgCom/Pubs/NCH/NCH-1.html> [URL verified 7/9/03].

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